

AMENDMENTS TO THE CLAIMS

Claim 1 (Currently amended): An organic light emitting diode (OLED) comprising:

5 a bottom substrate comprising a bottom electrode positioned on an upper surface of the bottom substrate, an organic layer positioned on ~~a predetermined region~~ of the bottom electrode, a top electrode positioned on the organic layer, and a spot glue region positioned on the bottom substrate and outside the ~~predetermined region of the bottom electrode~~ organic layer, an upper surface of the bottom electrode comprising at least one first ditch;

10 a top substrate positioned parallel with the bottom substrate, and a lower surface of the top substrate comprising at least one ~~first~~ second ditch formed within the top substrate; and

15 a sealing material positioned on the spot glue region of the bottom substrate for binding the top substrate and the bottom substrate together;

20 wherein the first ditch and the second ditch are ~~is used to prevent the sealing material from overflowing into the predetermined region of the bottom substrate occupied by the organic layer~~ and affecting normal operation of the OLED.

25 Claim 2 (Original): The OLED of claim 1 wherein the bottom substrate comprises a glass substrate, a plastic substrate, or a metal substrate.

30 Claim 3 (Original): The OLED of claim 1 wherein the top substrate comprises a glass substrate, a glass

container, or a metal container.

Claim 4 (Original): The OLED of claim 1 wherein the bottom electrode comprises indium tin oxide (ITO) or
5 indium zinc oxide (IZO), and functions as a anode of the OLED.

Claim 5 (Original): The OLED of claim 1 wherein the top electrode comprises magnesium (Mg), aluminum (Al),
10 lithium (Li) or an alloy of Mg, Al, and Li, and functions as an cathode of the OLED.

Claim 6 (Original): The OLED of claim 1 wherein the organic layer further comprises a hole transport layer
15 (HTL) positioned on the bottom electrode, an emitting layer (EML) positioned on the HTL, and an electron transport layer (ETL) positioned on the EML.

Claim 7 (Original): The OLED of claim 6 further
20 comprising a hole injection layer (HIL) positioned between the bottom electrode and the HTL.

Claim 8 (Original): The OLED of claim 6 further
25 comprising an electron injection layer (EIL) positioned between the ETL and the top electrode.

Claim 9 (Original): The OLED of claim 1 wherein the sealing material is composed of epoxy.

30 Claim 10 (Currently amended): The OLED of claim 1 wherein the ~~first~~ second ditch is positioned within the top substrate corresponding to the bottom substrate and

between the spot glue region and the ~~predetermined~~
region occupied by the organic layer, and a depth of
the ~~first~~ second ditch is less than half of a thickness
of the top substrate.

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Claim 11 (Canceled)

Claim 12 (Currently amended): The OLED of claim 1 wherein
the ~~OLED further comprises at least one third the first~~
10 ditch is positioned within the bottom electrode and
between the spot glue region and the ~~predetermined~~
region occupied by the organic layer, and a depth of
the ~~third~~ first ditch is less than a thickness of the
bottom electrode.

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Claim 13 (Original): The OLED of claim 1 further
comprising a desiccating agent positioned in the OLED
to prevent the organic layer of the OLED from moistening.

20 Claim 14 (Currently amended): An organic light emitting
device that comprises at least two organic light
emitting diodes (OLEDs), the organic light emitting
device comprising:

25 a bottom substrate comprising at least two device
regions, and a segmented region between two adjacent
device regions positioned on an upper surface of the
bottom substrate, each device region comprising a
bottom electrode positioned on the device region, an
organic layer positioned on an active region of the
30 device region, and a top electrode positioned on the
organic layer;

a top substrate positioned parallel with the bottom

substrate, a lower surface of the top substrate comprising at least two first regions corresponding to the device regions of the bottom substrate, at least one second region corresponding to the segmented region of the bottom substrate, and a plurality of first ditches positioned within each first region of the top substrate; and

5 a sealing material positioned on a spot glue region of the bottom substrate and outside each active region for binding the top substrate and the bottom substrate together;

10 wherein the first ditches are used to prevent the sealing material from overflowing into the segmented region and each active region of the bottom substrate and affecting normal operation of each OLED.

15 Claim 15 (Original): The organic light emitting device of claim 14 wherein the bottom substrate comprises a glass substrate, a plastic substrate, or a metal substrate.

20 Claim 16 (Original): The organic light emitting device of claim 14 wherein the top substrate comprises a glass substrate, a glass container, or a metal container.

25 Claim 17 (Original): The organic light emitting device of claim 14 wherein the bottom electrode comprises indium tin oxide (ITO) and indium zinc oxide (IZO), and functions as a anode of each OLED.

30 Claim 18 (Original): The organic light emitting device of claim 14 wherein the top electrode comprises

magnesium (Mg), aluminum (Al), lithium (Li), and an alloy of Mg, Al, and Li, and functions as an cathode of each OLED.

- 5 Claim 19 (Original): The organic light emitting device of claim 14 wherein the organic layer further comprises a hole transport layer (HTL) positioned on the bottom electrode, an emitting layer (EML) positioned on the HTL, and an electron transport layer (ETL) positioned
10 on the EML.

- Claim 20 (Original): The organic light emitting device of claim 19 further comprising a hole injection layer (HIL) positioned between the bottom electrode and the
15 HTL.

- Claim 21 (Original): The organic light emitting device of claim 19 further comprising an electron injection layer (EIL) positioned between the ETL and the top
20 electrode.

- Claim 22 (Original): The organic light emitting device of claim 14 wherein the sealing material is composed of epoxy.
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- Claim 23 (Currently amended): The organic light emitting device of claim 14 wherein the first ditches are positioned within the top substrate corresponding to the bottom substrate and between the spot glue region and the ~~predetermined~~ active region, and a depth of
30 each first ditch is less than half of a thickness of the top substrate.

Claim 24 (Canceled)

Claim 25 (Currently amended): The organic light emitting device of claim 14 wherein the organic light emitting device further comprises at least one third second ditch positioned within the bottom electrode and between the spot glue region and the predetermined active region, and a depth of the second ditch is less than a thickness of the bottom electrode.

Claim 26 (Currently amended): The organic light emitting device of claim 14 wherein a width of the segmented region is larger than twice a width of each first ditch.

Claim 27 (Original): The organic light emitting device of claim 14 further comprising a desiccating agent positioned in each OLED to prevent the organic layer of each OLED from moistening.

Claim 28 (New): An organic light emitting device that comprises at least two organic light emitting diodes, the organic light emitting device comprising:

a bottom substrate comprising at least two device regions, and a segmented region between two adjacent device regions positioned on an upper surface of the bottom substrate, each device region comprising a bottom electrode positioned on the device region, an organic layer positioned on an active region of the device region, and a top electrode positioned on the organic layer;

a top substrate positioned parallel with the bottom

substrate, a lower surface of the top substrate comprising at least two first regions corresponding to the device regions of the bottom substrate, at least one second region corresponding to the segmented region
5 of the bottom substrate, and a plurality of first ditches positioned within each first region of the top substrate, a width of each first ditch being less than half a width of the segmented region; and

a sealing material positioned on a spot glue region
10 of the bottom substrate and outside each active region for binding the top substrate and the bottom substrate together;

wherein the first ditches are used to prevent the sealing material from overflowing into the segmented
15 region and each active region of the bottom substrate and affecting normal operation of each OLED.